

Customer No.: 31561
Application No.: 10/064,560
Docket No.: 8878-US-PA

AMENDMENTS

In The Claims

1. (original) A fabrication method for a semiconductor hole, the method is applicable in forming a plurality of holes in a photoresist layer, comprising:
performing a first exposure process on the photoresist layer using a first photomask, wherein the first photomask comprises a plurality of first polygon patterns thereon, and each of the first polygon pattern is rotated a first fixed angle from a first arrayed position;
performing a second exposure process on the photoresist layer using a second photomask, wherein the second photomask comprises a plurality of second polygon patterns thereon, each second polygon pattern is rotated a second fixed angle from a second arrayed position and is mirror imaged to the first polygon patterns; and
performing a development process on the photoresist layer to form the holes.
2. (original) The method of claim 1, wherein the first fixed angle and the second fixed angle are about 45 degrees.
3. (original) The method of claim 1, wherein the first and the second polygon

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patterns are applicable to a photomask used for exposing a positive photoresist.

4. (original) The method of claim 1, wherein after forming the hole, an ion implantation process is performed.

5. (original) The method of claim 4, wherein after the ion implantation process, the photoresist layer is removed.

6. (original) The method of claim 1, wherein after forming the holes, an etching process is performed.

7. (original) The method of claim 6, wherein after the etching process, the method further comprises removing the photoresist layer.

8. (original) An ion implantation process, comprising:
forming a dielectric layer on a substrate;
forming a photoresist layer on the dielectric layer;
performing a first exposure using a first photomask that comprises a plurality of diagonally allocated first polygon patterns, wherein the first polygon patterns are rotated a first fixed angle from a first arrayed position;

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performing a second exposure using a first photomask that comprises a plurality of diagonally allocated second polygon patterns, wherein the second polygon patterns are rotated a second fixed angle from a second arrayed position and are mirror imaged to the first square patterns;

performing a development process on the photoresist layer to forming a plurality of holes, wherein a portion of the dielectric layer is exposed; and

performing an ion implantation process.

9. (original) The method of claim 8, wherein the fixed angle and the second fixed angle are about 45 degrees.

10. (original) The method of claim 8, wherein the first and the second polygon patterns are applicable to a photomask used for exposing a positive photoresist.

11. (original) The method of claim 8, wherein subsequent to the ion implantation process, the photoresist layer is removed.

12. (original) The method of claim 8, wherein after forming the dielectric layer on the substrate, the method further comprises planarizing the dielectric layer.

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13. (currently amended) A method for forming a contact window, comprising:
forming a dielectric layer on a substrate;
forming a photoresist layer on the dielectric layer;
performing a first exposure using a first photomask that comprises a plurality of
diagonally allocated first polygon patterns, wherein the first polygon patterns are rotated a
first fixed angle from a first arrayed position;
performing a second exposure using a second photomask that comprises a plurality of
diagonally allocated second polygon patterns, wherein the second polygon ~~[[square]]~~
patterns are rotated a second fixed angle from a second arranged position and are mirror
imaged to the first ~~[[square]]~~ polygon patterns;
performing a development process on the photoresist layer to form a plurality of
contact holes, wherein a portion of the dielectric layer is exposed; and
performing an etching process on the dielectric layer to form a plurality of contact
windows using the photoresist layer that comprises the plurality of the contact windows as
a mask.

14. (original) The method of claim 13, wherein the first fixed angle and the second
fixed angle are about 45 degrees.

15. (original) The method of claim 14, wherein the polygon patterns are applicable

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to a photomask used for exposing a positive pattern.

16. (original) The method of claim 13, wherein after etching the dielectric layer, the photoresist layer is removed.

17. (original) The method of claim 13, wherein after forming the dielectric layer on the substrate, the method further comprises planarizing the dielectric layer.

18. (original) A method for fabricating a semiconductor hole, which is applicable to forming a plurality of holes in a photoresist layer, comprising:

applying a first photomask to perform a first exposure on the photoresist layer, wherein a pattern of the first photomask is a plurality of first square patterns, and each of the first square patterns rotates a first fixed angle from a first arrayed position;

applying a second photomask to perform a second exposure on the photoresist layer, wherein second photomask comprises a plurality of diagonally allocated square patterns, wherein each of the second square patterns rotates a second fixed angle from a second arrayed position and is mirror imaged to the first square patterns; and

performing a development process on the photoresist layer to form the holes.

19. (original) The method of claim 18, wherein the first fixed angle and the second

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fixed angle are about 45 degrees.

20. (original) The method of claim 18, wherein the square patterns are applicable to a photomask used for exposing a positive photoresist.

21. (original) The method of claim 18, wherein subsequent to forming the holes, an ion implantation is performed.

22. (original) The method of claim 21, wherein subsequent to the ion implantation, the photoresist layer is removed.

23. (original) The method of claim 18, wherein subsequent to forming the holes, an etching process is performed.

24. (original) The method of claim 23, wherein subsequent to the etching process, the photoresist layer is removed.